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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,679	06/01/2001	Yuji Isoda	Q64821	7676

7590

11/13/2002

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EXAMINER

GABOR, OTILIA

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 11/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,679

Applicant(s)

ISODA, YUJI

Examiner

Otilia Gabor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arakawa et al. (U. S. Patent 6031236) and further in view of Tsuchino et al. (U. S. Patent 5055681).

Arakawa et al. discloses an apparatus 10 and method to prepare a stimuable phosphor sheet comprising a support positioned in the deposition system 11 and an evaporation source 11a by which the phosphor layer is evaporated in the vacuum chamber 12 of the deposition apparatus 10. The powdery (solid) stimuable phosphor is introduced into the evaporation source 11a while the substrate or support on which the phosphor is to be deposited is positioned in the deposition system 11. Then the exhaust system 13 is driven to set the vapor pressure within the vacuum container 12 to a desired level to perform the deposition of the stimuable phosphor onto the substrate. The deposition is carried out by heating the substrate to a predetermined temperature. The support could be Quartz, alumina, silicon carbide or zirconia. Optionally a transparent glass protective film (layer) is also deposited on the substrate to form an airtight seal over the substrate frame. The phosphor to be vaporized can be selected from the group including a stimuable alkali metal halide phosphor with the formula as

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claimed (see Cols.5-7). The phosphor sheet thus prepared using the vacuum evaporation method has a relative density more than 70% and preferably up to 93%. Also the support is connected to a heating device whereby the temperature of the support can be changed.

Arakawa et al. fails to specifically use an electron beam heating method for the process of evaporation, however as disclosed by Tsuchino et al. the electron beam vacuum evaporation of a phosphor onto the support which, can be heated or cooled before, during or after the vaporization, is a well known and used evaporation method and thus using this heating method constitutes only a matter of design choice. The phosphor to be evaporated can employ different forms and raw phosphor materials.

Regarding claims 4, 6, 7, 10, 11, 13 and 20 using the claimed cooling rate and accelerating voltage constitutes only a matter of design choice since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Dooms et al. (U. S. Patent 5789021), Kawabata et al. (U. S. Patent 4947046), Nakazawa et al. (U. S. Patent 5023461), Kano et al. (U. S. Patent 4963751).

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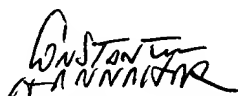
4. **NOTE** : The following publications : Iwabuchi et al. (US 20020041977 A1); Hosoi (US 20020104974 A1, US 20020139937 A1); Neriishi et al. (US 20020158216 A1) disclose the same invention as the one claimed in the present application, but because its filing and publication date is later than the priority date of the present application it cannot be used as prior art.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Otilia Gabor whose telephone number is 703-305-0384. The examiner can normally be reached on Monday-Friday between 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 703-308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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November 4, 2002


CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878